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RAW SEQUENCE LISTING

DATE: 04/24/2002

PATENT APPLICATION: US/10/067,122

TIME: 14:32:54

Input Set : N:\Crf3\RULE60\10067122.raw

Output Set: N:\CRF3\04242002\J067122.raw

2 -

1 <110> APPLICANT: Kwon, Byoung S.
 2 <120> TITLE OF INVENTION: MURINE 4-1BB GENE
 3 <130> FILE REFERENCE: 740.009US1
 4 <140> CURRENT APPLICATION NUMBER: 10/067,122
 C--> 5 <141> CURRENT FILING DATE: 2002-02-04
 7 <150> PRIOR APPLICATION NUMBER: 08/012,269
 8 <151> PRIOR FILING DATE: 1993-02-01
 10 <150> PRIOR APPLICATION NUMBER: US 07/922,996
 11 <151> PRIOR FILING DATE: 1992-07-30
 12 <150> PRIOR APPLICATION NUMBER: US 07/267,572
 13 <151> PRIOR FILING DATE: 1988-11-07
 14 <160> NUMBER OF SEQ ID NOS: 13
 15 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 17 <210> SEQ ID NO: 1
 18 <211> LENGTH: 2350
 19 <212> TYPE: DNA
 20 <213> ORGANISM: Mus musculus
 21 <220> FEATURE:
 22 <221> NAME/KEY: misc_feature
 23 <222> LOCATION: (1)...(2350)
 24 <223> OTHER INFORMATION: n = A,T,C or G
 25 <400> SEQUENCE: 1

26	atgtccatga actgctgagt ggataaacag cacgggatat ctctgtctaa aggaatatta	60
27	ctacaccagg aaaaggacac attcgacaac aggaaaggag cctgtcacag aaaaccacag	120
28	tgtcctgtgc atgtgacatt tcgccatggg aaacaactgt tacaacgtgg tggtcattgt	180
29	gctgctgcta gtgggctgtg agaaggtggg agccgtgcag aactcctgtg ataactgtca	240
30	gcctggtaet ttctgcagaa aatacaatcc agtctgcaag agctgccctc caagtacctt	300
31	ctccagcata ggtggacagc cgaactgtaa catctgcaga gtgtgtgcag gctatttcag	360
32	gttcaagaag ttttgctcct ctaccacaa cgcggagtgt gactgcattg aaggattcca	420
33	ttgcttgggg ccacagtgcg ccagatgtga aaaggactgc aggcctggcc aggagctaac	480
34	gaagcagggg tgcaaaacct gtagcttggg aacatttaat gaccagaacg gtactggcgt	540
35	ctgtcgacct tggacgaact gctctctaga cggaagggtc gtgcttaaga ccgggaccac	600
36	ggagaaggac gtggtgtgtg gacccctgtt ggtgagcttc tctcccagta ccaccatttc	660
37	tgtgactcca gagggaggac caggagggca ctccctgcag gtccttacct tgttctctgc	720
38	gctgacatcg gctttgctgc tggccctgat cttcattact ctccgttctt ctgtgctcaa	780
39	atggatcagg aaaaaattcc cccacatatt caagcaacca tttaagaaga ccaactggagc	840
40	agctcaagag gaagatgctt gtagctgccc atgtccacag gaagaagaag gaggaggagg	900
41	aggctatgag ctgtgatgta ctatcctagg agatgtgtgg gccgaaaccg agaagcacta	960
42	ggacccccacc atcctgtgga acagcacaag caacccccacc accctgttct tacacatcat	1020
43	cctagatgat gtgtgggcgc gcacctcatc caagtctctt ctaacgctaa catatttgtc	1080
44	tttacctttt ttaaatcttt ttttaaattt aaattttatg tgtgtgagtg ttttgccctgc	1140
45	ctgtatgcac acgtgtgtgt gtgtgtgtgt gtgacactcc tgatgcctga ggaggtcaga	1200
W--> 46	agagaaaggg ttggttccat aagaactgga gttatggatg gctgtgagcc ggnnngatag	1260

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47      gtcgggacgg agacctgtct tcttatttta acgtgactgt ataataaaaa aaaaatgata      1320
48      tttcgggaat tgtagagatt ctctgacac ccttctagtt aatgatctaa gaggaattgt      1380
49      tgatacgtag tatactgtat atgtgtatgt atatgtatat gtatatataa gactctttta      1440
50      ctgtcaaagt caacctagag tgtctgggta ccagggtcaat tttattggac attttacgtc      1500
51      acacacacac acacacacac acacacacgt ttatactacg tactgtttatc ggtattctac      1560
52      gtcataataat gggatagggg aaaaggaaaac caaagagtga gtgatattat tgtggagggtg      1620
53      acagactacc ccttctgggt acgtagggac agacctcctt cggactgtct aaaactcccc      1680
54      ttagaagtct cgtcaagttc cgggacgaag aggacagagg agacacagtc cgaaaagtta      1740
55      tttttccggc aaatcctttc cctgtttcgt gacactccac cccttgtgga cacttgagt      1800
56      tcaccttgc gccggaaggt caggtgggtac ccgtctgtag gggcggggag acagagccgc      1860
57      gggggagcta cgagaatcga ctacacgggc gccccgggct tcgcaaataa aactttttta      1920
58      atctcacaag tttcgtcggg gctcggcgga cctatggcgt cgatccttat taccttatcc      1980
59      tggcgccaag ataaaacaac caaaagcctt gactcgggta ctaattctcc ctgccggccc      2040
60      ccgtaagcat aacgcggcga tctccacttt aagaacctgg ccgcgttctg cctgggtctcg      2100
61      ctttcgtaaa cggttcttac aaaagtaatt agttcttgc ttcagcctcc aagcttctgc      2160
62      tagtctatgg cagcatcaag gctgggtattt gctacggctg accgctacgc cgccgcaata      2220
63      aggggtactgg gcggcccgtc gaaggccctt tggtttcaga aaccaaggc cccctcata      2280
64      ccaacgttgc gactttgatt cttgccggta cgtggtggtg ggtgccttag ctctttctcg      2340
65      atagttagac                                     2350
67 <210> SEQ ID NO: 2
68 <211> LENGTH: 256
69 <212> TYPE: PRT
70 <213> ORGANISM: Mus musculus
71 <400> SEQUENCE: 2
72      Met Gly Asn Asn Cys Tyr Asn Val Val Val Ile Val Leu Leu Leu Val
73      1          5          10          15
74      Gly Cys Glu Lys Val Gly Ala Val Gln Asn Ser Cys Asp Asn Cys Gln
75      20          25          30
76      Pro Gly Thr Phe Cys Arg Lys Tyr Asn Pro Val Cys Lys Ser Cys Pro
77      35          40          45
78      Pro Ser Thr Phe Ser Ser Ile Gly Gly Gln Pro Asn Cys Asn Ile Cys
79      50          55          60
80      Arg Val Cys Ala Gly Tyr Phe Arg Phe Lys Lys Phe Cys Ser Ser Thr
81      65          70          75          80
82      His Asn Ala Glu Cys Glu Cys Ile Glu Gly Phe His Cys Leu Gly Pro
83      85          90          95
84      Gln Cys Thr Arg Cys Glu Lys Asp Cys Arg Pro Gly Gln Glu Leu Thr
85      100         105         110
86      Lys Gln Gly Cys Lys Thr Cys Ser Leu Gly Thr Phe Asn Asp Gln Asn
87      115         120         125
88      Gly Thr Gly Val Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Arg
89      130         135         140
90      Ser Val Leu Lys Thr Gly Thr Thr Glu Lys Asp Val Val Cys Gly Pro
91      145         150         155         160
92      Pro Val Val Ser Phe Ser Pro Ser Thr Thr Ile Ser Val Thr Pro Glu
93      165         170         175
94      Gly Gly Pro Gly Gly His Ser Leu Gln Val Leu Thr Leu Phe Leu Ala
95      180         185         190
96      Leu Thr Ser Ala Leu Leu Leu Ala Leu Ile Phe Ile Thr Leu Leu Phe

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97          195          200          205
98      Ser Val Leu Lys Trp Ile Arg Lys Lys Phe Pro His Ile Phe Lys Gln
99          210          215          220
100      Pro Phe Lys Lys Thr Thr Gly Ala Ala Gln Glu Glu Asp Ala Cys Ser
101          225          230          235          240
102      Cys Arg Cys Pro Gln Glu Glu Glu Gly Gly Gly Gly Gly Tyr Glu Leu
103          245          250          255
105 <210> SEQ ID NO: 3
106 <211> LENGTH: 24
107 <212> TYPE: PRT
108 <213> ORGANISM: Mus musculus
109 <400> SEQUENCE: 3
110      Cys Arg Val Cys Ala Gly Tyr Phe Arg Phe Lys Lys Phe Cys Ser Ser
111          1          5          10          15
112      Thr His Asn Ala Glu Cys Glu Cys
113          20
115 <210> SEQ ID NO: 4
116 <211> LENGTH: 22
117 <212> TYPE: PRT
118 <213> ORGANISM: Drosophila
119 <400> SEQUENCE: 4
120      Cys Pro Val Cys Phe Asp Tyr Val Ile Leu Gln Cys Ser Ser Gly His
121          1          5          10          15
122      Leu Val Cys Val Ser Cys
123          20
125 <210> SEQ ID NO: 5
126 <211> LENGTH: 26
127 <212> TYPE: PRT
128 <213> ORGANISM: Dictyostelium
129 <400> SEQUENCE: 5
130      Cys Pro Ile Cys Phe Glu Phe Ile Tyr Lys Lys Gln Ile Tyr Gln Cys
131          1          5          10          15
132      Lys Ser Gly His His Ala Cys Lys Glu Cys
133          20          25
135 <210> SEQ ID NO: 6
136 <211> LENGTH: 6
137 <212> TYPE: PRT
138 <213> ORGANISM: Mus musculus
139 <220> FEATURE:
140 <221> NAME/KEY: SITE
141 <222> LOCATION: (1)...(6)
142 <223> OTHER INFORMATION: Xaa = Any Amino Acid
143 <400> SEQUENCE: 6
W--> 144      Val Gln Asn Ser Xaa Asp
145          1          5
147 <210> SEQ ID NO: 7
148 <211> LENGTH: 12
149 <212> TYPE: PRT
150 <213> ORGANISM: Artificial Sequence

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151 <220> FEATURE:
152 <223> OTHER INFORMATION: An artificial peptide
153 <400> SEQUENCE: 7
154     Cys Arg Pro Gly Gln Glu Leu Thr Lys Ser Gly Tyr
155         1             5             10
157 <210> SEQ ID NO: 8
158 <211> LENGTH: 24
159 <212> TYPE: PRT
160 <213> ORGANISM: Artificial Sequence
161 <220> FEATURE:
162 <223> OTHER INFORMATION: A conserved pattern
W--> 163 <221> NAME/KEY: SITE
164 <222> LOCATION: (1)...(24)
165 <223> OTHER INFORMATION: Xaa = Any Amino Acid
W--> 166 <400> 8
W--> 167     Cys Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
168         1             5             10             15
W--> 169     Xaa His Xaa Xaa Xaa Cys Xaa Cys
170         20
172 <210> SEQ ID NO: 9
173 <211> LENGTH: 4
174 <212> TYPE: PRT
175 <213> ORGANISM: Mus musculus
176 <400> SEQUENCE: 9
177     Cys Arg Cys Pro
178         1
180 <210> SEQ ID NO: 10
181 <211> LENGTH: 4
182 <212> TYPE: PRT
183 <213> ORGANISM: Artificial Sequence
184 <220> FEATURE:
185 <223> OTHER INFORMATION: A consensus sequence
W--> 186 <221> NAME/KEY: SITE
187 <222> LOCATION: (1)...(4)
188 <223> OTHER INFORMATION: Xaa = Any Amino Acid
W--> 189 <400> 10
W--> 190     Cys Xaa Cys Pro
191         1
193 <210> SEQ ID NO: 11
194 <211> LENGTH: 25
195 <212> TYPE: DNA
196 <213> ORGANISM: Artificial Sequence
197 <220> FEATURE:
198 <223> OTHER INFORMATION: A primer
199 <400> SEQUENCE: 11
200     acctcgagggt cctgtgcatg tgaca
202 <210> SEQ ID NO: 12
203 <211> LENGTH: 25
204 <212> TYPE: DNA

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Output Set: N:\CRF3\04242002\J067122.raw

205 <213> ORGANISM: Artificial Sequence

206 <220> FEATURE:

207 <223> OTHER INFORMATION: A primer

208 <400> SEQUENCE: 12

209 atgaattcctt actgcaggag tgccc

25

211 <210> SEQ ID NO: 13

212 <211> LENGTH: 11

213 <212> TYPE: PRT

214 <213> ORGANISM: Mus musculus

215 <400> SEQUENCE: 13

216 Cys Arg Pro Gly Gln Glu Leu Thr Lys Gln Gly

217 1 5 10

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/067,122

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 1253,1254,1255

Seq#:6; Xaa Pos. 5

Seq#:8; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,15,16,17,19,20,21,23

Seq#:10; Xaa Pos. 2

VERIFICATION SUMMARY

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Input Set : N:\Crf3\RULE60\10067122.raw

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L:5 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:46 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:1200
L:144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:163 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:166 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8
L:167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:169 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:16
L:186 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:189 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10
L:190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0